

Distributed at Meeting of 10/6/77

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October 6, 1977

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Boston Redevelopment Authority
City Hall
One City Hall Square
Boston, Massachusetts 02201

Att: Mr. Robert F. Walsh, Director

Re: Medical Area Total Energy Plant Project -
Proposed Second and Third Amendments
to Application

Gentlemen:

As counsel for Boston Edison Company in the above matter, we learned on September 29, 1977, that on August 30, 1977, L. Edward Lashman, Director of External Projects for Harvard University, submitted to the Boston Redevelopment Authority a letter dated August 29, 1977, and approximately sixty pages of accompanying materials as additional documentation in support of the proposed Second and Third Amendments to the Application for approval of the Medical Area Total Energy Plant Project. Mr. Lashman's letter requested that the materials submitted be included as part of the record of the proceedings before the Authority regarding the proposed Amendments.

As stated in our letter to the Chairman of the Authority of September 29, 1977, Mr. Lashman's letter and the accompanying material was submitted to the Authority without notice to anyone at Boston Edison Company and without notice to us as counsel for Boston Edison in this matter and without providing us with a copy of the letter or the materials. We accordingly requested in our letter of September 29th that the Authority take no further action in this matter until we were furnished with copies and given an opportunity to respond to the letter and materials. We understand, however, that at its meeting on September 29th the Authority proceeded to vote to grant tentative approval to the Amendments and to direct its General Counsel to prepare a Report and Decision approving the Amendments on the conditions stated by the Chairman at that meeting.

BOSTON REDEVELOPMENT AUTHORITY
OFFICE OF THE DIRECTOR

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at meeting.*

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hand to Secy
10/6/77 @ 1:46pm*

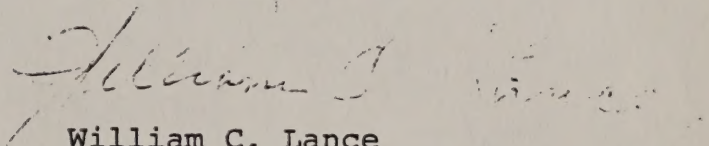
Boston Redevelopment Authority
October 6, 1977
Page Two

We have now obtained copies of Mr. Lashman's letter and the accompanying materials submitted to the Authority and have reviewed them with representatives of Boston Edison Company in the short time available.

We are now submitting herewith for the information of the Authority six copies of an Affidavit of Dale F. Cronan, Assistant Manager of the Commercial Department of Boston Edison Company, which points out the many incorrect and inaccurate statements in Mr. Lashman's letter and the materials submitted therewith, especially with regard to the issue of the claimed savings for the MASCO institutions from the electric portion of the power plant. Attached to these copies of the Affidavit are copies of the Exhibit referred to therein, an opinion of our firm dated April 1, 1977, submitted to the Corporation Counsel of the City of Boston regarding the local property tax status of the power plant.

These copies of this Affidavit and attachment are submitted to the Authority with the request on behalf of Boston Edison Company that a copy thereof and a copy of this letter be included as part of the record of the proceedings before the Authority regarding the proposed Second and Third Amendments to the Application.

Yours truly,



William C. Lance

WCL:kd

cc: Kane Simonian, Secretary, Boston Redevelopment Authority
Charles J. Speleotis, Esq., Boston Redevelopment Authority
Edward J. Lonergan, Esq., Boston Redevelopment Authority
Robert W. Meserve, Esq., Newman, Meserve, King & Romero
Vern W. Vance, Esq., Foley, Hoag & Eliot

DELIVERED BY HAND October 6, 1977

BEFORE THE
BOSTON REDEVELOPMENT AUTHORITY

In Re Second and Third Amendments
to Application for Approval of
Medical Area Total Energy Plant
Project under G.L. c.121A, as
amended, and c.652 of the Acts
of 1960

Affidavit of Dale F. Cronan

I, Dale F. Cronan, being duly sworn, do depose and say as follows:

I am the Assistant Manager of the Commercial Department of Boston Edison Company. I received a Bachelor of Science degree in Industrial Distribution (Engineering - Marketing) from Clarkson College of Technology in 1964. I have been employed by Boston Edison in various capacities during the period from 1964 to date. From 1964 through 1967 I held the position of Senior Supervising Engineer; from 1969 through April, 1977, I served as the Head of various Divisions within the Commercial Department of Boston Edison, and in April, 1977 I assumed my present position as Assistant Manager of the Commercial Department. In these various capacities I have had responsibility for and experience in providing and reviewing estimates of electric and steam consumption, cost estimates, feasibility studies, and analyses of proposed total energy plants, and performing other similar technical and engineering assignments in connection with the operations of the Commercial Department.

Beginning in April, 1977, my duties as Assistant Manager of the Commercial Department have included responsibility for matters involving Boston Edison and the proposed Medical Area Total Energy Plant (the "MASCO" or "MATEP" power plant), the electric generating and steam power plant which Harvard University ("Harvard"), the Medical Area Service Corporation ("MASCO"), and Medical Area Total Energy Plant, Inc. ("MATEP") propose to build in the Harvard Medical School - Hospital area in the City of Boston.

In that capacity I have studied the letter dated August 29, 1977, from L. Edward Lashman, Harvard's Director of External Projects, to Mr. Robert Walsh, Director of the Boston Redevelopment Authority, and the materials accompanying that letter. These materials are said to provide, apparently in response to an earlier request of Mr. Walsh and Mr. Speliotis on behalf of the Authority, additional documentation in support of the proposed Second and Third Amendments now pending before the Authority to the Application for approval of the MASCO Power Plant under G.L. c.121A, and St. 1960, c.652, as amended. Mr. Lashman's letter asserts, among other things, that the estimate of approximately \$2,000,000 of the claimed savings for the MASCO institutions from the electric portion of the MASCO power plant made by Harvard at the public hearing held by the Authority on the Amendments on June 29, 1977, was quite conservative; that such savings will grow in the future; that such savings amount to approximately \$2.00 on the daily bed rate for the hospitals which are members of MASCO; that the proposed payment in lieu of property taxes on the power plant to be made by MATEP under c.121A is "neutral" in

the sense that it is comparable to the property taxes paid by Boston Edison Company on its generating capacity; and that the proposed MASCO power plant is "a prime example of a plant designed to meet President Carter's plans for co-generation facilities".

These statements and other statements in the materials accompanying Mr. Lashman's letter are incorrect. Indeed, the additional materials submitted confirm my prior conclusions stated in my Affidavit submitted to the Authority on July 22, 1977, that the MASCO institutions will realize substantial losses rather than any savings from the electric generating portion of the proposed MASCO power plant. The facts and reasoning upon which my opinion is based are as follows.

I. SAVINGS

Financing Cost

The document entitled "Financial Sensitivity of the Medical Area Total Energy Plant" in the materials accompanying Mr. Lashman's letter correctly notes that the cost of financing has always been a "critical number" in the evaluation of the feasibility of the Medical Area Total Energy Plant. This document then makes the assertion that "under current conditions, the financing of the plant could be completed with a debt service cost of 6.6%", as compared with a prior assumption of 7.7%, and that this 1.1% improvement translates into an overall savings of \$1.2 million. This figure is then translated into a \$402,309 increase in the savings claimed for the electric portion of the plant, thereby increasing those claimed savings from approximately \$2 million to an estimated \$2,412,987 in the first year of normal operations.

These computations are said to be based on a firm equity proposal and 8.25% senior debt rate. No other information is provided to support the critical assumption of 6.6% for overall debt service. The proportions of the total financing for the power plant which will be in the form of equity and in the form of debt are not stated. There is no indication that any cost is attributed to the equity portion of the financing. Thus, the overall debt service cost for the power plant may be significantly understated.

The document goes on to state that if the 8.25% debt rate were to go to 9.25%, the negative impact of such a change on the claimed savings from the electric portion of the plant would be \$312,598 per year; and further that if the actual cost of the electric portion of the plant exceeds the estimated cost of \$37 million by 30%, at the 8.25% debt rate the savings would be reduced by \$732,000.

In my opinion, it is likely that the actual cost of the electric portion of the plant and the related distribution system will substantially exceed the \$37 million estimate, especially considering the history of previous estimates by Harvard relating to the cost of the plant.

Therefore, if the actual cost of the electric portion of the plant is \$48 million rather than the estimate of \$37 million, and if the senior debt rate increases from 8.25% to 9.25%, the negative impact of only these two changes would reduce the claimed savings from the electric portion of the plant by more than \$1 million.

Fuel Costs

That portion of the material accompanying Mr. Lashman's letter entitled "ENERGY COSTS" deals with the critical question of the annual cost of fuel to supply the electric requirements of the MASCO institutions under the two alternatives in question, the MASCO power plant or the continued purchase of electricity from Boston Edison with the construction of a steam and chilled water plant. This section of the material correctly identifies the three factors affecting fuel cost as (1) the unit cost of fuel and purchased electricity, (2) the quantities of electricity and other utilities used by the MASCO institutions, and (3) the key factor of the heat rates or efficiency rate assumed for the MASCO power plant. However, there are a number of incorrect or inaccurate statements and estimates in this portion of the materials which directly affect the claimed savings from the electric portion of the MASCO power plant.

Use of No. 2 Fuel Oil by MATEP

Under the caption "Unit Costs" the statement is made that the annual cost of fuel to MATEP in 1980 has been estimated to be \$2.52 per million BTU. This estimate, combined with the revised Harvard estimate of approximately 22,000,000 gallons as the annual fuel oil consumption of the plant, translates into an annual cost of fuel of approximately \$7.85 million. This estimate is incorrect for the reasons explained in the next paragraph. The correct estimated unit cost of fuel to MATEP in 1980 will be approximately \$2.67 per million BTU, not \$2.52 per million BTU. Using the same estimate of annual fuel consumption, this translates into an annual cost of fuel

of \$8.3 million. This correction alone reduces the estimated savings from the electric portion of the power plant by approximately \$350,000.

This correction is required by the failure of the analysis in this portion of the material to take into account that MATEP will use about 80% No. 6 fuel oil and 20% No. 2 fuel oil, whereas Boston Edison uses virtually 100% No. 6 fuel oil, and that No. 2 fuel oil is significantly more expensive than No. 6 fuel oil. In arriving at the estimate of \$2.52 per million BTU, the Applicants have taken an assumed cost of fuel to MATEP in 1976 of \$2.00 per million BTU and escalated it to 1980 at 6% per year. However, the figure of \$2.00 per million BTU is not a correct base figure for MATEP. In 1976 the average cost of No. 6 fuel oil for Edison was \$1.89 per million BTU and the average cost to Edison of No. 2 fuel oil was \$2.28 per million BTU. The assumed cost of No. 6 fuel oil for MATEP in 1976 is \$2.00 per million BTU, and using the same proportionately higher cost to MATEP as compared to Edison, the assumed cost of No. 2 fuel oil for MATEP in 1976 would be \$2.41 per million BTU. Using an 80%/20% mix of No. 6 and No. 2 fuel oil, the weighted average cost for MATEP in 1976 for No. 6 and No. 2 fuel oil would be \$2.08 rather than the \$2.00 per million BTU stated in the materials. If this estimate of \$2.08 is then escalated to 1980 at the rate of 6% and provision is made for an additional 1.5% for trucking costs, the price per million BTU in 1980 for MATEP will be \$2.67, and not \$2.52.

Edison/MATEP Fuel Cost Differential

The portion of the materials entitled "Fuel Cost Differential" states that the economic analysis by MATEP is based on a fuel cost differential of 1.5% in favor of Edison, i.e., MATEP fuel costs are estimated to be 1.5% higher than corresponding Edison fuel costs. The statement is also made in this portion of the materials that this differential was suggested by Edison. These statements are not correct.

In fact, the actual differential between the cost of No. 6 fuel oil for Boston Edison and the cost for MASCO in 1976 was approximately 5.8%, representing the difference between \$1.89 per million BTU for Edison and \$2.00 per million BTU for MASCO. Furthermore, if the use of more expensive No. 2 fuel oil by MATEP is taken into account, the differential will be approximately 10% in favor of Boston Edison, which uses virtually 100% No. 6 fuel oil.

This portion of the material then states that "the economic analysis has been tested for a 5% differential, i.e., MATEP fuel costs at the 1976 base are increasing to \$2.07 per million BTU while purchase power costs are unchanged" and that this results in a reduction in the 1980 savings of \$113,000, or 5.6%. As shown in the preceding paragraph, testing the economic analysis for at least a 5% differential is appropriate. However, if the 1976 base cost for fuel for MATEP is increased to \$2.07 per million BTU, the correct reduction in the claimed savings from the plant, when properly computed, is approximately \$300,000 or 15%, not \$113,000 or 5.6%.

Fuel Consumption

The portion of the materials entitled "Fuel Consumption" correctly notes the critical nature of the assumed annual thermal efficiency and annual fuel consumption of the proposed MASCO power plant in arriving at any estimate of the total cost to the MASCO institutions. The materials also state that if the plant is less efficient than predicted and fuel consumption is 10% greater than the 22,000,000 gallons estimated by Harvard, the annual savings will decrease by \$785,000, or 39%; and that, if as stated in my prior Affidavit of July 22, 1977, the annual fuel consumption is understated by 5,000,000 gallons, the annual savings would be reduced by approximately \$1.8 million or 88.5% to only \$231,000 per year.

I continue to believe for the reasons stated in my prior Affidavit and also for those reasons stated below that the Applicants have seriously understated the annual fuel oil consumption of the power plant and that the actual annual fuel oil consumption will exceed the Harvard estimate of 22,000,000 gallons by more than 5,000,000 gallons per year. It should be noted that if the actual fuel oil consumption is as much as 27,000,000 gallons rather than 22,000,000 gallons per year, any savings for the MASCO institutions from the electric portion of the power plant are entirely eliminated, based on Harvard's own analysis set forth in the materials.

Heat Rates Assumed by MATEP

The assumed heat rate or thermal efficiency for the electric portion of the power plant is of critical importance because it directly affects the amount of fuel oil which the plant will consume. The materials captioned "Fuel Consumption" defend the assumed

heat rate of 6,190 BTU per kilowatthour as a "possible result". I stated in my Affidavit of July 22, 1977, and I continue to believe that this heat rate assumed for the electric portion of the power plant, stated in terms of BTUS of oil per kilowatt of the electrical output, is unrealistically low. It is more likely that the gross heat rate for the electric portion of the power plant will be approximately 12,000 to 14,000 BTU per kilowatthour, so that if a credit allowance of 2,000 to 3,000 BTU per kilowatthour is allowed for heat recovery in connection with the production of steam and chilled water the net heat rate will be approximately 9,000 to 12,000 BTU per kilowatthour. If the heat rate is approximately 10,000 BTU per kilowatthour, the amount of fuel oil required for the production of electricity for the MASCO institutions will increase from the Harvard estimate of approximately 22,000,000 gallons to approximately 27,000,000 gallons per year. This will have the result as indicated above of increasing the cost of fuel for the power plant by approximately \$2 million annually and thereby eliminating any savings for the MASCO institutions.

This portion of the materials also assumes that a heat rate of approximately 9,560 BTU per kilowatthour represents a "worst case" assumption regarding the heat rate or efficiency of the electric portion of the plant. This assumption is invalid. In fact there are numerous installations in existence where the seasonal heat rates are 50% higher than this supposedly "worst case" estimate of 9,500 BTU per kilowatthour.

Furthermore, the inherent uncertainty of any assumed heat rate regarding the efficiency of diesel engines is illustrated by the

following excerpt from the Memorandum dated 12/15/76 to Mr. Champion from Edward P. Lawrence entitled "Re: Total Energy Plant: Equipment Guarantees and Insurance" included at a later point in the materials:

"With respect to the diesel engines manufactured by Hawker Siddeley in England, perhaps the most important single set of equipment in the plant, the original specifications for such engines provided that they would be fully guaranteed to meet the ratings, capacities and characteristics specified. When the final contract for such engines is finally processed by UE&C on Harvard's behalf, we would expect that it would contain such guarantees. This kind of guarantee would require that to the extent that the engines running at full load use 33 percent more oil to achieve the specified voltage output at that level, Hawker Siddeley would be required at its expense to repair or otherwise modify the engines to achieve the property fuel consumption." (Emphasis added.)

In other words, although the diesels are nominally to be "fully guaranteed", it appears that notwithstanding the central importance of the efficiency of the diesel engines, the Applicants are willing to proceed on the basis of a guaranty from the manufacturer which is limited to a guaranty that the gross heat rate of the diesel engines, in terms of the amount of fuel oil required for the production of electricity, will not be greater than 133% of that called for in the specifications.

The "Fuel Consumption" portion of the materials attempts to minimize these uncertainties with the extraordinary statement that "MATEP makes no claim to heat rates, only to the quantity of fuel required to generate the Users' utility needs". This is similar to attempting to estimate the amount of gasoline that a car will consume in traveling from one point to another without knowing or wanting to know the number of miles per gallon which the car gets at

different speeds and the speed or speeds at which the car will travel. Therefore, nothing in the new materials changes my opinion that the annual fuel oil consumption of the plant will be approximately 27,000,000 gallons, and not 22,000,000 gallons as estimated by Harvard.

Operating and Maintenance Costs

I note after further study of the "Economic Feasibility Study Summary" submitted by Harvard to the Authority at the June 29th public hearing that the estimated "Other Operating & Maintenance Costs" for the electric portion of the proposed MASCO power plant are significantly understated. The annual estimate for such costs set forth in that study are \$2,437,300 for the proposed MASCO power plant as a whole and \$1,798,400 for a steam and chilled water plant, indicating an estimate of approximately \$630,000 for the electric portion of the MASCO power plant itself. This estimate is equivalent to an estimate of only three-tenths per kilowatthour. This is comparable to the actual experience of Boston Edison in operating its generating plants in recent years. However, those generating plants are many times larger than the MASCO power plant will be and they are all steam turbine generating plants. It is widely known and accepted that the operating and maintenance costs for diesel engine generating facilities are significantly higher than steam turbine facilities, and this in fact is one of the more important reasons that diesel engines are not normally used by public utilities for the generation of electricity. In my opinion the actual operating and maintenance costs for the electric portion of the MASCO power plant will be in the range of four-tenths to five-tenths

of a cent per kilowatthour. This will increase such costs for and reduce any savings from the electric portion of the plant by approximately \$400,000.

Taxes

With regard to the issue of savings claimed for the electric portion of the plant, the most significant aspect of the remaining materials accompanying Mr. Lashman's letter is what they omit. In my Affidavit submitted to the Authority on July 22, 1977, I pointed out that the Economic Feasibility Study Summary submitted to the Authority by Harvard on June 29, 1977, failed to show any provision for the payment to be made under c.121A in lieu of property taxes on the plant, which payment was stated at that time to be \$1,228,000 per year. I understand that this payment has now been increased to \$1,500,000 per year beginning in 1980. However, Mr. Lashman's letter and the materials filed therewith, like the Economic Feasibility Study, fail to make any mention of the in-lieu tax payment in analyzing the purported savings from the electric portion of the plant. Since the entire payment has been stated to be attributable to the electric portion of the plant and to be based on costs associated with the construction of that portion of the plant, the claimed savings from the electric portion of the plant must be further reduced by this figure of \$1,500,000 per year.

Summary

Harvard now claims that the savings to be made by the MASCO institutions from the electric portion of the plant will be approximately \$2.4 million, a figure which is translated in Mr. Lashman's letter into a claimed \$2 reduction in the daily bed rate for the

hospitals involved beginning in 1980. Based on my analysis set forth above, the costs associated with the annual ownership and operation of the electric portion of the plant will be increased and the claimed savings from the electric portion of the plant will be reduced by the following items:

1.	Higher debt service costs	Up to \$1 million a year, depending on construction cost overruns and ultimate interest rate on senior debt.
2.	Additional costs for fuel to reflect 20% usage of more expensive No. 2 fuel oil	\$350,000
3.	Additional costs for fuel attributable to consumption of 27 million gallons rather than 22 million gallons of fuel oil each year	\$2,000,000
4.	Higher operating and maintenance costs	\$400,000
5.	Payment in lieu of property taxes	<u>\$1,500,000</u>
Total:		\$5,250,000

Therefore, the MASCO institutions will not realize any savings from the electric portion of the MASCO power plant but will in fact incur higher costs by approximately \$2,850,000 in supplying their electric requirements from the power plant as compared to the costs they would incur with the continued purchase of their electric requirements from Edison and the construction of a new steam and chilled water plant. This amounts to an increase of approximately \$3 on the daily bed rate for the hospitals which are members of MASCO - an increase which will be irrevocable for a period of 35

years or more if a decision is made to proceed with the electric portion of the power plant.

II. THE "NEUTRALITY" OF THE PROPOSED IN LIEU TAX PAYMENT

Mr. Lashman's letter asserts on the second page that the \$1.2 million plus payment in lieu of taxes then proposed to be made by the Applicants is "neutral" in the sense that it is slightly larger than the tax currently paid on generating capacity by Boston Edison. It is my understanding that the Applicants now propose to make a payment in lieu of taxes of \$1.5 million a year commencing in 1980. Neither the earlier \$1.2 million nor the current \$1.5 million figure is "neutral".

The materials accompanying Mr. Lashman's letter also include a document dated 3/1/77 entitled "Memorandum Re: MATEP Tax Agreement with the City of Boston", which suggests at page 3 that a proper maximum annual in lieu tax payment for MATEP under c.121A should be an amount which in terms of taxes per kilowatt of generating capacity is equivalent to the amount paid by Boston Edison Company in property taxes on its generating facilities computed on a per kilowatt basis. Specifically, the Memorandum suggests that since Edison paid a total of \$13,291,462 in 1977 in property taxes on its generating facilities having a capacity of 803,000 kilowatt, MATEP should make a payment in lieu of taxes of not more than \$1,215,963 on the MASCO power plant having a capacity of 73,450 kilowatt. This Memorandum asserts that an annual payment of that amount would not give MATEP "a competitive advantage as a result of the 121A agreement". These assertions are erroneous and misleading.

First, local property taxes are assessed on the properties of Boston Edison on the basis of fair market value which, since Edison is a regulated public utility, is in turn largely measured by the cost of our various properties. The property taxes we pay are not assessed on a per kilowatt basis. If the electric portion of the MASCO plant were assessed at fair market value similarly measured by its cost, the property taxes payable by MATEP would greatly exceed both \$1,216,000 and the figure of \$1.5 million now proposed. For example, the estimate of \$37 million for the cost of the electric portion of the plant set forth in the document entitled "Financial Sensitivity of the Medical Area Total Energy Plant" accompanying Mr. Lashman's letter, and an estimated 10% effective rate of taxation in the City of Boston (derived from a tax rate in the vicinity of \$252 per thousand and an effective rate of assessment of 40% to 50%) produce an annual local property tax payment on the electric portion of the plant of approximately \$3,700,000. This should be the minimum amount of taxes paid with respect to the electric portion of the MASCO plant. The supposedly "neutral" in lieu payment of \$1.5 million Harvard proposes to make represents an effective tax rate of less than 5% on the cost of the electric portion of the plant - a figure so low it is far beyond "neutrality".

Second, there is a reason why property taxes on Edison's generating facilities are not and never have been assessed on a per kilowatt basis. The same kilowatt of installed generating capacity may have a much higher or much lower fair market value depending on the age and efficiency of the generating plant. A kilowatt of installed generating capacity in an older generating plant may be relatively

inefficient and have a relatively short remaining useful life, while a kilowatt of installed generating capacity in a new plant may be relatively efficient and have a relatively long useful life ahead. In addition, the original cost of the capacity in the older plant would be substantially less than the cost of the capacity in a new plant. Consequently, if Edison constructed a new generating plant in Boston today, it would certainly pay an amount of property taxes on the plant which, if measured on a per kilowatt basis, would be substantially greater than the taxes paid on its older generating facilities on a per kilowatt basis. Therefore, MATEP is given an unfair competitive advantage if the electric portion of the plant is to be taxed on a per kilowatt basis as though it were an old and not a new facility.

Therefore, the taxes on the electric portion of the MASCO plant should be approximately \$3.7 million. This makes it clear that if there were any savings for the MASCO institutions from the electric portion of the plant after taking into account the other items discussed in Part I of this Affidavit, those savings would be due solely to the tax subsidy which the Applicants seek for the plant. Clearly, if taxes of \$3.7 million were paid on the plant rather than the payment of \$1.5 million now proposed, the difference would more than eliminate any remaining savings Harvard anticipates for the MASCO institutions.

Finally, with regard to the matter of taxes, I wish to point out that the low payment proposed in lieu of taxes cannot be defended as a fair amount on the basis that the proposed power plant constitutes a charitable facility which would otherwise be exempt from

local property taxes. I am advised by Peabody, Brown, Rowley & Storey, counsel for Boston Edison Company in this matter, that the plant does not qualify as a tax exempt charitable facility. Attached to this Affidavit is a copy of their opinion to the Corporation Counsel of the City of Boston dated April 1, 1977, regarding the status of the plant for local property tax purposes.

III. CO-GENERATION

Mr. Lashman's letter asserts that the plant is "a prime example of a plant designed to meet President Carter's plans for co-generation facilities, a key element in the national energy conservation plan for the United States". This statement is incorrect and represents a distortion of the true nature and purposes of the co-generation program.

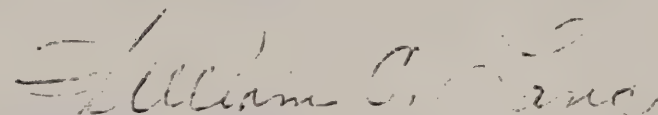
The co-generation program calls for the coincidental production of electricity as a by-product in industrial and other power plants producing large amounts of steam, and the essence of the co-generation concept is the coincidental production of electricity from excess steam through the addition of steam turbines. Clearly, the installation in the MASCO power plant of 42,000 kilowatts of generating capacity in the form of the six diesel engine generators has absolutely nothing to do with co-generation in this sense. Furthermore, the purpose of the co-generation program and a key part of the national energy conservation plan is to conserve oil by reducing the use of oil wherever possible for the generation of electricity. In this respect the power plant is clearly inconsistent with the national energy plan. The power plant will be completely dependent on fuel oil for the generation of electricity. In contrast, approxi-

mately one-third of the kilowatthours generated by Edison are now produced with nuclear power. Furthermore, with the expected continued growth of nuclear plants for the generation of electricity in the Northeast, Boston Edison will utilize even less oil in the future for the generation of electricity for the MASCO institutions than will be the case if they purchase their electric requirements from the MASCO power plant.



Dale F. Cronan

Subscribed and sworn to before me this 5th day of October, 1977.



William C. Lance - Notary Public

My commission expires: 11/12/77

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April 1, 1977

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Herbert P. Gleason, Esquire
Corporation Counsel
City of Boston
City Hall
Boston, Massachusetts 02201

Re: MASCO Power Plant

Dear Mr. Gleason:

We are acting as counsel for Boston Edison Company in connection with matters involving the proposed Medical Area Service Corporation or "MASCO" electric-generating and steam power plant proposed to be constructed on Brookline Avenue in the City of Boston. We are writing to you at this time to express our opinion regarding the question of whether this power plant, or either the electric-generating or steam portion of the power plant, would qualify as a charitable facility exempt from local property taxes in the City of Boston. We understand that the facts are as follows:

The cost of the proposed MASCO power plant is now estimated to be at least \$109,000,000. At this time there is no executed agreement with the City of Boston regarding the property taxes to be paid to the City of Boston on the power plant.

The power plant would supply all the electric and steam requirements of the twelve major medical institutions located in the Harvard Medical School-Hospital area of the City of Boston which are members of MASCO. The power plant would also supply steam to Simmons College. In addition, the power plant would supply, free of charge, all the steam requirements of the Mission Park Housing Development, the 774 unit private housing development now under construction in the area, for heating, air-conditioning and hot water for that Development.

Herbert P. Gleason
April 1, 1977
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Boston Edison Company, a regulated public utility, is presently supplying and has supplied for many years virtually all the electric requirements of the MASCO institutions. If the MASCO power plant is not constructed, Edison is prepared to continue to supply all the electric requirements of the MASCO institutions for the foreseeable future. Therefore, the power plant is not required to provide the MASCO institutions with an adequate and reliable supply of electricity.

At the present time the steam requirements of the MASCO institutions are adequately supplied by the existing Harvard steam plant on Blackfan Street. Although there may be a need for an expanded supply of steam for the MASCO institutions at some point in the future, the proposed MASCO power plant is not required for this purpose, since there are alternatives to the MASCO power plant which would provide the MASCO institutions with an adequate and reliable supply of steam in the future.

The sponsors of the MASCO power plant, Harvard University and MASCO, have obtained approval from the Boston Redevelopment Authority for the construction and operation of this power plant as an urban renewal project under the provisions of St. 1960, c.652 and G.L. c.121A. However, that approval of the power plant as an urban renewal project is the subject of pending litigation between Boston Edison Company and the Boston Redevelopment Authority presently awaiting a decision on appeal before the Supreme Judicial Court. There are also pending before the BRA at this time two amendments to the original Application for approval of the power plant as an urban renewal project which involve "fundamental" changes in the project.

The power plant will be owned by a corporation organized under c.121A, Medical Area Total Energy Plant, Inc. or "MATEP", which will in turn be owned by Citicorp Translease, Inc., a subsidiary of a New York bank holding company, Citicorp. Following its construction the plant would be leased by MATEP to MASCO for a period of thirty-five years or more. During this period MASCO would operate the plant and would provide the MASCO institutions with their requirements for electricity and steam; and each of the MASCO institutions would pay MASCO for such electricity and steam, on the basis of the total costs incurred by MASCO, pursuant to total requirements contracts. The total costs would include all operating costs and all rentals to be paid by MASCO to MATEP under the lease for the plant. Those rentals would be

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sufficient to enable MATEP to meet all its obligations, which would include amortization of all costs for the land and the construction of the power plant, totalling more than \$109,000,000, and all interest and other charges.

Although MASCO is organized as a non-profit corporation under G.L. c.180, it is not treated as a charitable organization exempt for Federal income tax purposes under §501(c)(3) of the Internal Revenue Code, having surrendered any claim to any such exemption and subjected itself to Federal income taxation in order to achieve investment credit and other Federal income tax benefits for Citicorp in financing the MASCO power plant. MASCO is accordingly treated for Federal income tax purposes as a business corporation fully subject to Federal corporate income taxation.

The question presented is whether the proposed MASCO power plant, or either the electric-generating or steam portion of the power plant, would qualify as a charitable facility exempt from local property taxes in the City of Boston. The only exemption from local property taxation which might be claimed for the proposed MASCO power plant as a charitable facility is the general charitable exemption contained in G.L. c.59, §5 (Clause Third) for property owned and occupied by a charitable organization for its charitable purposes or those of other charitable organizations.

Our opinion on this question is as follows:

First, it is our opinion that if the MASCO power plant is owned by MATEP or by any other corporation which is owned directly or indirectly by Citicorp, the power plant would clearly not qualify for an exemption from local property taxes as a charitable facility under c.59, §5 (Clause Third), because the power plant will be owned by MATEP or by such other corporation and not by a charitable organization.

Second, it is our opinion that if the power plant were owned by MASCO, the power plant would not qualify for an exemption from local property taxes as a charitable facility under c.59, §5 (Clause Third), because MASCO is not a charitable organization within the meaning of this statutory exemption. Since MASCO has accepted treatment as a business corporation for Federal income tax purposes, it should be similarly treated for Massachusetts tax purposes as a taxable corporation.

Third, it is our opinion that if the power plant were owned by a bona fide charitable organization, the power plant still would not qualify for an exemption from local property taxes as a

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charitable facility under c.59, §5 (Clause Third), because the power plant, and particularly the steam portion of the power plant, will not be devoted solely to furthering the charitable purposes of the MASCO institutions. The power plant will provide steam for the Mission Park Housing Development. The Mission Park Housing Development is not a charity in any sense; it is a private housing development undertaken for profit. The fact that the steam is to be provided to the Mission Park Housing Development free of charge does not alter the basic fact that this function of the power plant is distinctly not a charitable function.

Fourth, it is our opinion that even if the power plant were owned by a charitable organization and this function of supplying steam to the Mission Park Housing Development were eliminated, the power plant still would not be exempt from local property taxes as a charitable facility, because the statutory exemption set forth in c.59, §5 (Clause Third), for property owned and occupied by a charitable organization for charitable purposes cannot be stretched to encompass an enterprise which is of the magnitude of the proposed power plant and which is not required to carry out the charitable purposes of the organizations involved. Our reasons for this opinion are as follows.

The property here in question under c.59, §5 (Clause Third), would consist of a large electric-generating and steam power plant, having an estimated cost of at least \$109,000,000, which would supply all the electric and steam requirements of a group of major institutions. Such a power plant represents a radical departure from any type of recognized charitable function. It is a well-established principle that an exemption from taxation such as the charitable exemption set forth in c.59, §5 (Clause Third), is to be strictly construed and any party claiming an exemption must show that it is within the express words or the necessary implication of the statute. Such a power plant is not within either the express words or the necessary implication of the charitable exemption set forth in c.59, §5 (Clause Third).

When a charitable organization embarks on a commercial enterprise and claims the benefit of a charitable tax exemption for the enterprise, the basic test is clear: Is the product or service produced by the enterprise reasonably required or needed for the accomplishment of the charitable purposes of the organization and not available from alternative commercial sources? The MASCO power plant is not required for the accomplishment of the charitable purposes of the MASCO institutions. The plant is not merely a

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replacement for the existing Harvard steam plant on Blackfan Street. The MASCO plant would generate more than 35 times as much electricity and produce 3 times as much steam as that plant. The generation of electricity and production of steam are not a part of the health care programs of the hospitals or the educational programs of the schools which are members of MASCO. And most important, adequate commercial alternatives to the MASCO power plant are available. The MASCO institutions are presently receiving virtually all their electricity from Boston Edison, at rates subject to regulation by the Massachusetts Department of Public Utilities. Edison is prepared to continue to supply their requirements for electricity and could also provide their requirements for steam. Thus, the MASCO power plant does not represent an activity reasonably required by the MASCO institutions for the accomplishment of their charitable purposes, and the electricity it would provide is available and the steam it would provide could be available from commercial sources.

The decision of the Supreme Judicial Court in the so-called Laundry case, The Children's Hospital Medical Center v. The Board of Assessors of Boston, 353 Mass. 35 (1967), does not establish that the MASCO plant would be exempt from local property taxes if owned by MASCO. In the Laundry case, the Court held that a laundry facility owned by a charitable corporation providing laundry services at cost to a group of hospitals exclusively and not operated for profit was exempt from local property taxes under c.59, §5.

However, a number of key factors were present in that case. The laundry service was specifically adapted to meet the sanitary requirements for use by the hospitals; could not be supplied by local commercial sources; had not in the past been supplied by local commercial sources; and had previously been performed by each hospital as an incidental part of its overall operations. The laundry facility also benefited the hospitals and directly promoted their charitable purposes by eliminating the investment of capital previously required for each hospital to establish and maintain its own laundry, by reducing the administrative burdens of each hospital, and increasing space available in the hospitals for health care activities.

Virtually none of these factors is involved in the MASCO power plant. Electricity and steam are not and need not be specially adapted for use by the MASCO institutions. Their requirements for electricity have been supplied and can continue to be supplied by normal commercial sources, i.e., Boston Edison. Their

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requirements for steam in the future could also be supplied by Edison. The MASCO power plant would require a new total investment of at least \$109,000,000, which is to be paid by the MASCO institutions over thirty-five years as part of their costs for electricity and steam. The power plant would increase the administrative burdens of MASCO and its members. Further, the power plant would not increase the space available for health care facilities but would have the opposite effect by precluding the use of the site of the plant in the future for additional health care facilities.

Finally, the issue of subsidized direct competition between (a) a charitable organization embarking on a commercial enterprise to provide goods or services to the organization or other charitable organizations and (b) an existing taxpaying business then providing or able to provide those goods or services was not an issue in the Laundry case. Therefore, the decision of the Court in the Laundry case is clearly distinguishable and does not apply to the proposed MASCO power plant.

In view of the foregoing, it is our opinion that the proposed MASCO power plant will not qualify for a charitable exemption from local property taxes under c.59, §5, and therefore should be fully subject to normal local property taxation by the City of Boston on this proposed investment of approximately \$109,000,000.

Yours truly,

Peabody, Brown, Rowley & Storey

Peabody, Brown, Rowley & Storey

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